Second Five-Year Review Report
For
Hechimovich Landfill
Town of Williamstown
Dodge County, Wisconsin

June 2004

PREPARED BY:

Wisconsin Department of Natural Resources
South Central Region
Fitchburg, Wisconsin

Approved by: Richard C Karl **Date:** 6-21-04

Richard C. Karl
USEPA Region V
Acting Division Director
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List of Acronyms

ARAR	Applicable or Relevant and Appropriate Requirement
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CTH	County Trunk Highway
EPA	United States Environmental Protection Agency
CFR	Code of Federal Regulations
MCL	Maximum Contaminant Level
NCP	National Contingency Plan
NPL	National Priorities List
O&M	Operation and Maintenance
PRP	Potentially Responsible [illegible]ty
RA	Remedial Action
RAA	Remedial Action Alternatives
RAO	Remedial Action Objective
RD	Remedial Design
RI/FS	Remedial Investigation/Feasibility Study
RPM	Remedial Project Manager
ROD	Record of Decision
VOC	Volatile Organic Compound
WDNR	Wisconsin Department of Natural Resources

Executive Summary

The Hechimovich Sanitary Landfill began as the City of Mayville dump in 1959. The City of Mayville operated a licensed fill that from 1959 to 1970 accepted wastes including battery cracking wastes, spent solvents and waste paints. In the early 1970's site operations were continued by George Hechimovich and the site became known as the Hechimovich Sanitary Landfill. During much of the 1970s the site was licensed to accept toxic and hazardous wastes. In 1980 the site was no longer permitted to accept hazardous wastes. In July 1985 the site name was changed to Land and Gas Reclamation Landfill and in October 1986 the site was closed to all waste disposal.

Environmental problems at the site, particularly groundwater contamination, led to state enforcement actions and a landfill cap and gas extraction system were installed as part of a court ordered settlement in July 1987. Continuing work led the site to be nominated for the National Priorities List (NPL) in 1983 and the site was added to the National Priorities List in March 1989.

Following completion of the Remedial Investigation and Feasibility Study the Wisconsin Department of Natural Resources (WDNR) wrote a January 1994 Source Control Record of Decision (ROD). This ROD documented the installation of a new clay cap and an active landfill gas extraction system. This ROD was concurred to by the United States Environmental Protection Agency (USEPA).

In July 1993 a baseline risk assessment was conducted for the existing conditions at the site. This assessment showed under current conditions there were no human health risks in excess of levels identified by USEPA as warranting remedial actions. The results of this assessment together with the Remedial Investigation data were used to evaluate final groundwater and source control remedies for the site. The final chosen remedy included the existing clay cap and gas extraction system and operational changes to the gas system to emphasize gas removal from those areas of the waste fill believed to be major contributors of contaminants to the groundwater. These decisions were set in a final ROD for the site signed in September 1995.

Since 1995 the site remedial actions have been operated satisfactorily. Since February 1999, the end of the first 5-year review period, the gas extraction system has removed in excess of 10,000 pounds of volatile organic chemicals from the waste mass. During this time the clay cap has also been maintained and several leachate seeps were addressed. Groundwater monitoring downgradient of the site has shown some improvement in groundwater quality in impacted wells.

Continued operation of the existing remedial measures are planned for the site. There is a possibility of some future changes to the site. This site sits adjacent to an operating licensed landfill and a number of acres of open land. There are preliminary plans to expand the current licensed fill operation. One possible route of expansion would call for excavating the entire NPL site and placing it about 600 feet to the west in a new clay lined area. If this were to occur the entire waste mass would be contained in an engineered facility complete with gas and leachate collection. This would be advantageous from an environmental perspective. The possibility of this occurring is unknown. A complex mix of economic and state regulatory decisionmaking needs to be completed before the feasibility of such a project can be determined. It is expected this decisionmaking will take 12-14 months.

Based on the June 10, 2004 site inspection, as it exists today the landfill is protective of human health and the environment.

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Five-Year Review Summary Form

SITE IDENTIFICATION		
Site name *(from WasteLAN)*: Hechimovich Landfill Superfund Site		
EPA ID *(from WasteLAN)*: WID052906088		
Region: 5	**State:** WI	**City/County:** Town of Williamstown/Dodge County
SITE STATUS		
NPL status: x Final Deleted Other (specify)		
Remediation status (choose all that apply): Under Construction x Operating Complete		
Multiple OUs?* YES xNO	**Construction completion date:** 09/16/1997	
Has site been put into reuse? YES x NO		
REVIEW STATUS		
Lead agency: ☐ EPA x State Tribe Other Federal Agency		
Author name: Michael Schmoller		
Author title: Remedial Project Manager	**Author affiliation:** WDNR, South Central Region	
Review period:** 4 / 22 / 2004 to 6 /10 / 2004		
Date(s) of site inspection: 6/10/2004		
Type of review: Post-SARA Pre-SARA NPL-Removal only Non-NPL Remedial Action Site X NPL State/Tribe-lead Regional Discretion)		
Review number: 1 (first) x 2 (second) 3 (third) Other (specify)		
Triggering action: Actual RA On-site Construction at OU # Actual RA Start at OU# Construction Completion x Previous Five-Year Review Report Other (specify)		
Triggering action date *(from WasteLAN)*: 2/19/1999		
Due date *(five years after triggering action date)*: 02/19/2004		

* ["OU" refers to operable unit.]
** [Review period should correspond to the actual start and end dates of the Five-Year Review in WasteLAN.]

Five-Year Review Summary Form, cont'd.

Issues:

There are no serious administrative or technical issues related to implementing the current remedial actions. At present the site conditions are protective of human health and the environment.

However there are potential development plans that may significantly impact the site. The site lies adjacent to an active sanitary landfill, the Onyx Glacier Ridge Landfill. There are proposals to expand this site over the next several years. This expansion may involve excavating and moving the entire waste mass within the existing Superfund site to an engineered and lined facility several hundred feet to the west of its current location. This relocation would be done as one step in a series of steps resulting in expanding the disposal capacity of this property to nearly 14 million cubic yards.

From an environmental perspective the Department believes this relocation would be a positive action. Moving the waste from its current unlined location to a composite lined facility with engineered gas and leachate collection systems would result in reduced releases to the environment particularly groundwater.

Decisions regarding the potential for this work to occur will be made over the next 12-14 months

Recommendations and Follow-up Actions:

Continue operation of the landfill gas extraction system and long term groundwater monitoring according to the terms of the state operation approvals.

Protectiveness Statement(s):

All immediate threats at the site have been addressed, and the remedy is protective of human health and the environment.

Long-Term Protectiveness:

Long-term protectiveness of the remedial action will be verified by continued groundwater monitoring to evaluate the effectiveness of the landfill cap and gas extraction system to protecting groundwater quality. Existing data shows that while the groundwater plume contains volatile organic chemical concentrations in excess of state groundwater quality standards, the plume is stable and no further migration is being seen.

Other Comments:

This site was listed on the NPL as the Hechimovich Landfill. During it operational life the name of the site changed to the Land and Gas Reclamation Landfill. In state files the site is referred to as the Land and Gas Reclamation Landfill.

Hechimovich Landfill
Town of Williamstown, Wisconsin
Second Five-Year Review Report

I. Introduction

The purpose of the five-year review is to determine whether the remedy at a site is protective of human health and the environment. The methods, findings, and conclusions of reviews are documented in Five-Year Review reports. In addition, Five-Year Review reports identify issues found during the review, if any, and identifies recommendations to address them.

The Wisconsin Department of Natural Resources (WDNR) is preparing this Five-Year Review report pursuant to CERCLA §121 and the National Contingency Plan (NCP). CERCLA §121 states:

If the President selects a remedial action that results in any hazardous substances, pollutants, or contaminants remaining at the site, the President shall review such remedial action no less often than each five years after the initiation of such remedial action to assure that human health and the environment are being protected by the remedial action being implemented. In addition, if upon such review it is the judgement of the President that action is appropriate at such site in accordance with section [104] or [106], the President shall take or require such action. The President shall report to the Congress a list of facilities for which such review is required, the results of all such reviews, and any actions taken as a result of such reviews.

The U.S. EPA interpreted this requirement further in the NCP; 40 CFR §300.430(f)(4)(ii) states:

If a remedial action is selected that results in hazardous substances, pollutants, or contaminants remaining at the site above levels that allow for unlimited use and unrestricted exposure, the lead agency shall review such action no less often than every five years after the initiation of the selected remedial action.

The Wisconsin Department of Natural Resources (WDNR) conducted this five-year review of the remedy implemented at the Hechimovich Landfill in Town of Williamstown, Wisconsin. This review was conducted by the State Remedial Project Manager (RPM) for the entire site from April 22, 2004 through June 2004. This report documents the results of the review.

This is the second five-year review for the Hechimovich Landfill. The triggering action for this statutory review is the completion of the first of the review in February 19, 1999. The five-year review is required due to the fact that hazardous substances, pollutants, or contaminants remain at the site above levels that allow for unlimited use and unrestricted exposure.

II. Site Chronology

Table 1 - Chronology of Site Events

Event	Date
City of Mayville begins dump operation	1959
Mayville dump operated on site	1959 - 1970
Site operated by George Hechimovich	1970
WDNR issues conditional license to Hechimovich Sanitary Landfill	September 1970
WDNR issues license renewal includes toxic and hazardous waste disposal	December 1972
WDNR notifies Hechimovich Landfill that hazardous waste no longer allowed	1979
Hechimovich requests and receives hazardous waste extension until 1980	November 1979
Site accepts liquid hazardous wastes	1970-1980
Hechimovich Landfill nominated to the Nation Priorities List (NPL)	June 1983
Site name changed to Land and Gas Reclamation Landfill, Inc	July 1985
Land and Gas Reclamation Landfill ceases accepting all wastes	October 1986
State enforcement action requires a landfill cap and gas collection system	July 1987
Hechimovich Landfill added to the NPL	March 1989
State required remedial actions completed	March 1992
Interim source control ROD available for public comment	December 1992
Remedial Investigation completed	April 1993
Interim Source control ROD signed	January 1994
Landfill capping, gas control and long term monitoring selected as final remedy	February 1994
Proposed Plan for final remedy available to public	February 1994
Final ROD signed	September 1995
Preliminary Close Out Report written	September 1998
First 5 Year Review Completed	February 1999
Repairs done to site cap and leachate seeps	Summer 2002
2003 Annual Report received	April 2004

III. Background

Physical Characteristics

The Hechimovich Landfill site is located in a rural area in the Town of Williamstown, approximately 2 miles south of the City of Mayville, and approximately 3.5 miles east of the City of Horicon, Wisconsin. This 24.3 acre closed landfill is located in the east one-half of the southwest quarter of Section 35, Township 12 North, Range 16 East, Town of Williamstown, Dodge County, Wisconsin. This site is unfenced and access is partially controlled. The site contains an estimated 1 million cubic yards of waste. The waste is a mix of hazardous and non-hazardous waste.

Land and Resource Use

The historic land use of the site prior to waste operations is unknown. From the 1950's until 1986, hazardous waste activities conducted at the site included, at differing time intervals, battery cracking, paint disposal and waste solvent disposal. For an undetermined period of time solvent disposal involved dumping the liquid wastes into evaporation pits dug into the top of the waste. The majority of the waste is residential, commercial and industrial solid waste. The licensed new Hechimovich Sanitary Landfill, now called Onyx Glacier Ridge Landfill, still operates adjacent to this NPL site. It accepts non hazardous waste only and is an engineered facility incorporating leachate and gas control systems.

Most of the land adjacent to the site is privately owned. Single family homes in a rural setting surround the site. Wetlands lie to the east, north and west of the site. Horicon National Wildlife Refugee lies about 3.5 miles west of the landfill. The City of Mayville is 2 miles to the north. Mayville draws its drinking water from underlying sandstone units from below a depth of 227 feet.

The fractured limestone bedrock underlying the site at about 170 feet is used as a drinking water source for nearby private wells. The dominant ground water flow direction in the shallow aquifer is north towards the wetlands north of the site.

History of Contamination

The Hechimovich site is a licensed landfill. The site was first operated as the Mayville Dump by the City of Mayville from 1959 to 1970. The Mayville landfill was a small open dump that now is part of the northern end of the closed landfill. A variety of waste disposal activities occurred at the Mayville site including open burning, battery recycling operations and solvent disposal. It appears these past activities are a significant contributor to the current groundwater problems as the highest groundwater contamination levels are directly down gradient and adjacent to the old dumpsite.

Beginning in 1970 the site was operated by George Hechimovich and the site was then called the Hechimovich Sanitary Landfill. The Mayville site was sold to and became part of the Hechimovich Sanitary Landfill in 1971. In March 1984 site ownership and operations were transferred to Land and Gas Reclamation, Inc. and the site name was subsequently changed to LGRL in July 1985. The site was closed in October 1986.

During part of the 1970-1980 time period, the site was licensed to accept hazardous waste. Paint sludges and cutting oils from local industries, possibly containing lead, chromium and solvents, were disposed of in several lagoons on-site. It is estimated by USEPA that 53,000 gallons of liquid hazardous waste were disposed of at this site. In addition, the site accepted approximately one million cubic yards of nonhazardous household and commercial wastes. The landfill does not have a liner. An initial cover, consisting of 2 to 4 feet of local till soils and 6 inches of topsoil, was placed in 1987. A system of groundwater and surface water monitoring locations were included in a monitoring program required by the WDNR at site closure.

Initial Response

In July 1987, the Land and Gas Reclamation Landfill site was the subject of a WDNR state enforcement action, resulting in a Stipulation and Order signed by the Dodge County Circuit Court, which directed George Hechimovich, Hechimovich Sanitary Landfill, Inc., and Land and Gas Reclamation, Inc. to undertake certain actions at the landfill, including the installation of a clay cap and a gas collection system. The court ordered clay cap was installed, under WDNR supervision and approval, in 1991 and 1992. To date the cap has been satisfactorily installed and maintained. In addition, since March 1992 the active gas extraction system has been operating according to design specifications. The installation and operation of these measures were documented and approved as a source control interim action in a January 1994 Record of Decision signed by WDNR and concurred with by USEPA. The modification of this gas extraction system was the main activity in the final remedy for the site.

The WDNR nominated the Hechimovich site for listing on the NPL in 1983. The site was listed on the NPL, as the Hechimovich Sanitary Landfill, in March 1989. Based on the information obtained from landfill records in the possession of Daniel and George Hechimovich, the WDNR issued special notice letters to fourteen potentially responsible parties ("PRPs") on August 15, 1990 and special notice letters to two additional PRPs on September 20, 1990.

The potentially responsible parties entered into an environmental repair contract with the WDNR, which became effective on September 28, 1990, to perform a remedial investigation/feasibility study ("RI/FS") pursuant to s. 144.442, Wisconsin Statutes. After the environmental repair contract was signed, the WDNR decided that, due to the timing of the remedial actions, remediation at the site should be divided into two operable units; a source control (landfill closure) operable unit and a groundwater operable unit. The January 1994 Record of Decision documented successful completion of the source control operable unit. The final Record of Decision, signed by the state in September 6, 1995, establishes the final remedy for the site.

Basis for Taking Action

Contaminants

Hazardous substances that have been released at the site in each media include:

Table 2 – Hazardous Substances Released on Site

Gas Condensate	Groundwater
Acetone	Trichloroethylene
Benzene	Trans, 1,2 -Dichloroethene
2-Butanone	Cis, 1,2-Dichloroethene
1,1 Dichloroethane	Vinyl chloride
cis 1,2-Dichloroethylene	
Ethyl Benzene	
Tetrachloroethene	
Toluene	
Trichloroethylene	
Vinyl chloride	
Xylene	

The July 1993 Baseline Risk Assessment conducted for the site found no human health risks in excess of levels identified by USEPA as warranting remedial action. The primary pathway reviewed was groundwater ingestion. A screening level ecological risk assessment was also conducted. The assessment found the potential for exposure to contaminants in the ditches that drain the wetlands north of the landfill. No adverse ecological effects were observed however. The ditches do not appear to be able to support a sustainable population due to frequent drying out.

IV. Remedial Actions

Remedy Selection

The ROD for the source control interim remedy at the Hechimovich Landfill was signed in January 1994 and the final ROD was signed on September 6, 1995. Remedial Action Objectives (RAOs) were developed as a result of data collected during the Remedial Investigations to aid in the development and screening of remedial alternatives. The RAOs for the Hechimovich Landfill were intended to protect human health and the environment and to meet ARARs.

Remedial Action Objectives

- Reduce groundwater contaminant concentrations to levels below the Preventive Action Levels established in NR 140 Wis. Adm. Code at the landfill waste edge;

- Maintain human exposure levels to contaminants below state and federal guidelines. These are primarily the state and federal groundwater and drinking water standards. The federal

standards are Maximum Contaminant Levels set in the Safe Drinking Water Act and the state drinking water standards are set in NR 809 Wis. Adm. Code;

- Maintain ecological exposure levels to contaminants below potential levels of concern based on state and federal criteria such as the federal surface water quality criteria

The major components of the final site remedy selected in the ROD include the following:

Closure of the landfill;
Construction of a clay cap over the waste mass in accordance with State solid waste regulations;
Collection, treatment and discharge of landfill gas and leachate via a collection system;
Access and use restrictions on the property as provided in state solid waste management codes restricting future uses of licensed landfills and state drinking water codes restricting placement of wells within 1200 feet of landfills. The site access restrictions are implemented by the site owner under the state trespass laws. There is a gate restricting vehicle access to the site. The private well restrictions are implemented by the state through its regulation of well drillers.

Remedy Implementation

The remedial design and remedial action phase of the project was conducted through State solid waste management authority granted through ch. NR 500-526 of the Wisconsin Administrative Code. WDNR reviewed and approved the report "Construction Observation Report Site Closure/Final Cover System and Gas Collection System Land and Gas Reclamation Landfill dated August 6, 1992. The WDNR approval came November 19, 1992. The Remedial Design (RD) and Remedial Action (RA) were conducted in conformance with the RODs.

The Remedial Action (RA) consisted of installing a clay cap and active gas extraction system on the waste mass. The activities for this phase were initiated in 1991 and were completed in 1992. The Source Control ROD was written and signed in January 1994. The final site ROD was written in September 1995. The major components of this phase of the RA were the following:

- Placement and compaction of at least 2 feet of clay overlain by 24 inches of rooting zone material and 6 inches topsoil;

- Seeding and mulching the finished slopes;

- Installation of active gas extraction system;

- Establishment of a ground water monitoring system.

The contractors for the potentially responsible parties conducted remedial activities as planned. The WDNR has conducted several inspections since completion of the site work. During this period several leachate seeps and areas of excess settlement were identified and repaired. The series of inspections have concluded that construction had been completed in accordance with the remedial design plans and specifications.

The site achieved construction completion status when the Preliminary Close Out Report was signed on September 1998.

The WDNR and EPA have determined that all RA construction activities were performed according to specifications. It is expected that cleanup levels for all groundwater contaminants will have been reached within approximately thirty years. After groundwater cleanup levels have been met and the landfill closes after reaching final grades, the WDNR and EPA will issue a Final Close Out Report.

System Operation/Operation and Maintenance

Onyx Glacier Ridge Landfill LLC, a successor corporation that now owns the Hechimovich Landfill, is conducting long-term monitoring and maintenance activities according to state approvals. The primary activities associated with operations and maintenance (O&M) include the following:

- Visual inspection of the cap with regard to vegetative cover, settlement, stability, and any need for corrective action;
- Inspection of the drainage swales and ditches for blockage, erosion and instability, and any need for corrective action;
- Inspection of the condition of groundwater monitoring wells;
- Environmental monitoring: Monitoring of groundwater quality, leachate headwells and gas probes;
- Annual reports to the WDNR documenting the operation of the remedy.

The other remaining component of cleanup is the natural attenuation of ground water beyond the waste fill edge. By capping the landfill and intercepting contaminated liquids before they can leave the waste fill limits, the source of ground water contamination is being contained. Therefore, the primary O&M activities have been geared towards maintaining the gas extraction system, monitoring ground water, and maintenance of the cap.

V. Progress Since the Last Five-Year Review

This is the second 5-year review. The key activity over the last 5 years has been operation of the gas extraction system. Since February 1999, date of the first 5-year review, the gas system has removed an estimated 10,000 pounds of volatile organic compounds. The first 5-year review found the site remedy to be protective.

VI. Five-Year Review Process

Administrative Components

This Five-Year Review was conducted by Michael Schmoller of the WDNR, Remedial Project Manager (RPM).

From April 17 to May 2004, the reviewer established a review schedule whose components

included:

Document Review;
Data Review;
Five-Year Review Report Development and Review.

Community Involvement

There was no active community involvement during the writing of this 5-year review. The site has not been a subject of public interest for a number of years. Because of it location and lack of problems the neighbors and general public have had no interest in the site.

If the decision is made to move the waste mass from the current location into a newly designed landfill, there would be a public involvement effort concerning the decision and means of moving the waste mass. This public discourse would be part of a larger effort discussing all the waste management activities at the site.

Document Review

This five-year review consisted of a review of relevant documents including O&M records and monitoring data

Data Review

Ground Water Monitoring

Ground water monitoring has been conducted at the site since the early 1980s. However, ground water quality data collected since the early 1990's are primarily used to make decisions about the condition of the site. Modeling studies conducted with the data available during the time the RODs were written, September 1994, suggested that groundwater quality at the site should improve significantly from 1995 -1999. These improvements have not taken place at the rate predicted. Rather the groundwater data shown in Table 3 indicates the groundwater conditions at the site are only slowly improving. Since 1992 improvements in concentrations have been seen in wells MW-1RR, MW-1AR, MW-3R and MW-3AR close to the waste edge. Also improvements have been seen in well nest MW-210 about 400 feet downgradient of the waste edge. While not improving at the rate predicted, groundwater conditions at the site are better. Also, importantly the plume has not expanded downgradient of the landfill. The vertical and horizontal dimensions of the plume seem to have remained constant over the last 10 years.

Because some improvement is being seen, the WDNR is confident that groundwater contaminant concentrations north of the site will continue to decrease and the remedy will remain protective of human health and the environment.

Table 3 - Comparison of Groundwater Concentrations

Well Number	Sample Date	Concentration in ppb		
		TCE	cis-1,2 DCE	Vinyl Chloride
MW-1AR	10/1999	ND	6100	2000
	10/2000	ND	4920	1190
	10/2001	ND	4910	2000
	10/2002	ND	5660	1220
	10/2003	ND	4470	1200
W-3AR	10/1999	ND	1200	650
	10/2000	ND	1100	404
	10/2001	ND	1130	901
	10/2002	ND	1230	446
	10/2003	ND	712	407
MW-210	10/1999	ND	98	240
	10/2000	ND	1.61	5.3
	10/2001	ND	1.21	13.2
	10/2002	ND	1.59	12.8
	10/2003	ND	ND	1.02
MW-210A	10/1999	40	800	440
	10/2000	ND	372	157
	10/2001	55.9	520	425
	10/2002	ND	940	327
	10/2003	10	293	29.2
MW-214	4/1999	ND	ND	ND
	4/2000	ND	ND	ND
	10/2001	ND	ND	ND
	10/2002	ND	ND	ND
	10/2003	ND	ND	ND

ND = Not Detected

Site Inspection

A site inspection was conducted as part of this 5-year review on June 10, 2004. The cap is well maintained and the vegetative cover is very well established. The cap and cover are acting as high quality nesting habitat for wildlife. The gas extraction system is operating and groundwater

monitoring is being conducted in accordance with state approvals. The site is being very well managed.

No significant issues have been identified at any time during the last 5 years regarding the cap or gas extraction system.

Public Input

The Department did not conduct any public involvement efforts during the writing of this report. This site has not been a topic of public debate during the last 5 years.

VII. Technical Assessment

Question A: Is the remedy functioning as intended by the decision documents?

The review of documents, ARARs, risk assumptions, and the results of the ongoing monitoring indicate that the remedy is functioning as intended by the ROD. The capping of contaminated wastes within the landfill has achieved the remedial objectives to minimize the migration of contaminants to groundwater and prevent significant ecological exposures through surface waters.

Operation and maintenance of the cap and gas extraction system have been effective. The 10-year trend in the groundwater quality results show a stable plume with reducing concentrations within the plume.

Question B: Are the exposure assumptions, toxicity data, cleanup levels, and remedial action objectives (RAOs) used at the time of the remedy selection still valid?

There have been no changes in the physical conditions of the site that would affect the protectiveness of the remedy. The assumptions used during the development of the baseline risk assessment and the screening ecological assessment are still valid today. There have been no changes in the state or federal groundwater standards for the key contaminants of cis 1,2 dichloroethene, trichloroethene and vinyl chloride.

Changes in Standards and To Be Considered

ARARs that still must be met at this time and that have been evaluated include: ch. NR 140, Wisconsin Administrative Code (Enforcement Standards and Preventative Action Levels); the Safe Drinking Water Act (SDWA) (40 CFR 141.11-141.16) from which many of the groundwater cleanup levels were derived - [Maximum Contaminant Levels (MCLs), and MCL Goals (MCLGs)]; and ARARs related to monitoring and landfill capping as contained in the WDNR Plan Modification Approvals. There have been no changes in these ARARs and no new standards or TBCs affecting the protectiveness of the remedy.

Changes in Exposure Pathways, Toxicity, and Other Contaminant Characteristics

The exposure assumptions used to develop the human health and environmental risk assessment included direct contact with the waste; release of the contaminants to ambient air, groundwater migration of contaminants to water supply wells and groundwater migration of contaminants to surface waters. There have been no changes at the site that would alter these exposure possibilities. There have been no known changes in the toxicity factors for the contaminants of concern that were used in the baseline risk assessment. These assumptions were considered to be conservative and reasonable in evaluating risk and developing risk-based cleanup levels. No change to these assumptions, or the cleanup levels developed from them is warranted. There has been no change to the standardized risk assessment methodology that could affect the protectiveness of the remedy. The remedy is progressing as expected and it is expected that all groundwater cleanup levels will be met within approximately 30 years.

Question C: Has any other information come to light that could call into question the protectiveness of the remedy?

There is no information generated during the 5-year review process or other information that calls into question the protectiveness of the remedy. As currently constructed the landfill is protective of human health and the environment. There are possible plans for relocating the waste mass to an adjacent engineered lined landfill. The area around the NPL site is still used for waste disposal including the new Onyx Glacier Ridge Landfill. There are tentative plans for a large expansion of the waste disposal capacity. This expansion could be up to about 14 million cubic yards. If these plans are implemented it could possibly involve moving the NPL site to a new location about 600 feet west of its current location.

From an environmental perspective this relocation would be desirable. Moving the entire waste mass from an unlined location to a lined facility would be a major improvement in controlling contaminant migration from the site. Expected impacts to the groundwater and nearby wetlands would be reduced compared to existing circumstances. The extent of this reduction would not be clear until completion of further engineering work and actual movement of the waste. Moving the waste to a newly engineered site would improve the protection of public health and the environment.

Technical Assessment Summary

According to the data reviewed the remedy is functioning as intended by the ROD. There have been no changes in the physical conditions of the site that would affect the protectiveness of the remedy. There has been no changes in the toxicity factors for the contaminants of concern that were used in the baseline risk assessment, and there have been no change to the standardized risk assessment methodology that could affect the protectiveness of the remedy. There is no other known information that calls into question the protectiveness of the remedy.

VIII. Issues

No issues were identified that would affect either the current or future protectiveness of the remedy.

IX. Recommendations and Follow-Up Actions

No issues were identified therefore no follow-up actions are necessary at this site. Recommend that the remedy continue to be implemented in accordance with the provisions of the ROD.

X. Protectiveness Statement

The remedy is protective of human health and the environment upon attainment of groundwater cleanup goals, which is expected to require 30 years to achieve. In the interim, exposure pathways that could result in unacceptable risks are being controlled. All known threats at the site have been addressed through capping of contaminated waste materials and operation of the gas extraction system.

Long-term protectiveness of the remedial action will be verified by obtaining additional groundwater samples.

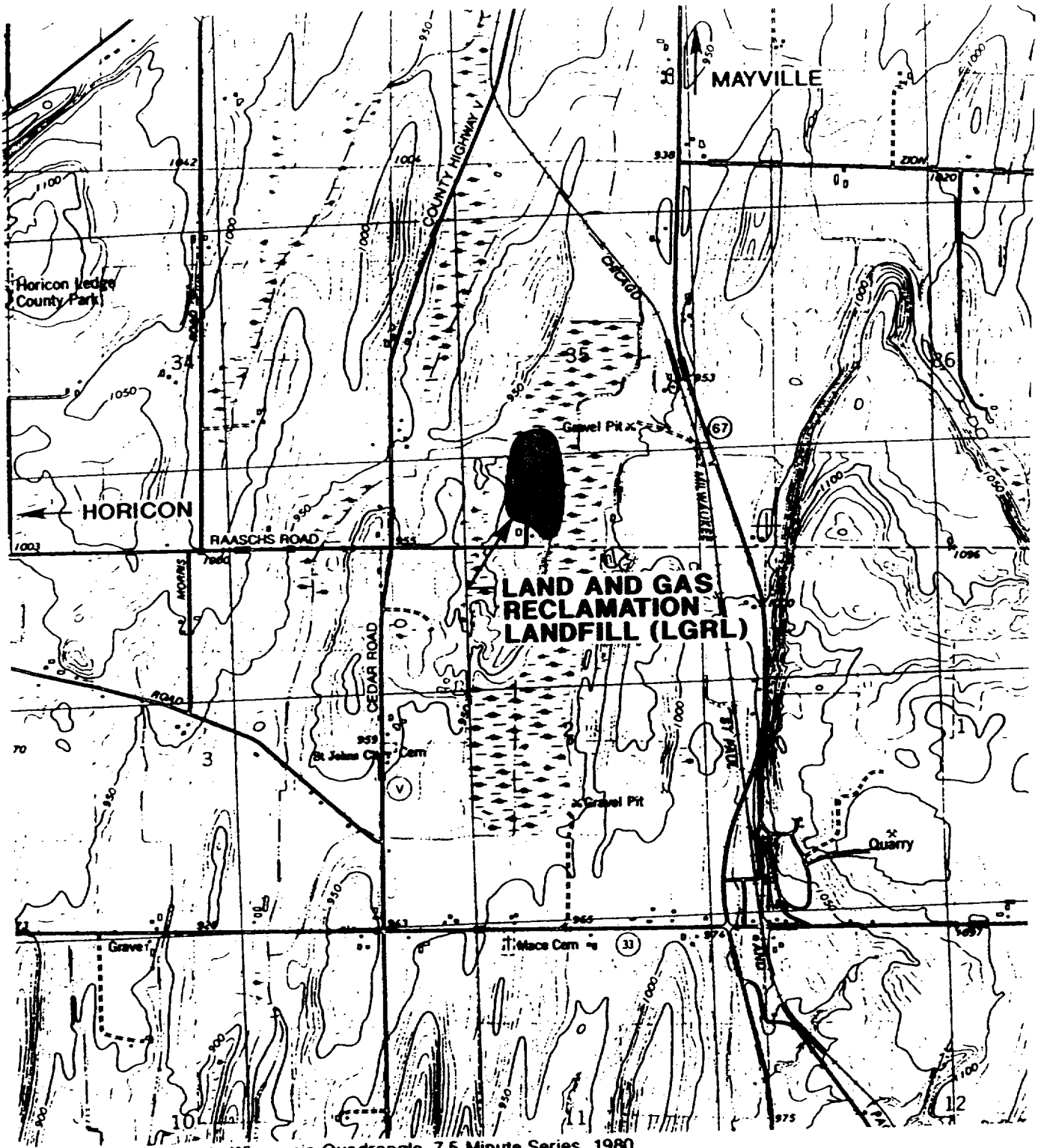
XI. Next Review

The next five-year review for the site is required in five years from the approval date of this review.

ATTACHMENTS

Attachment 1

Site Location Map



Source: Mayville South, Wisconsin Quadrangle, 7.5 Minute Series, 1980

N

0 2000 4000

Scale in Feet

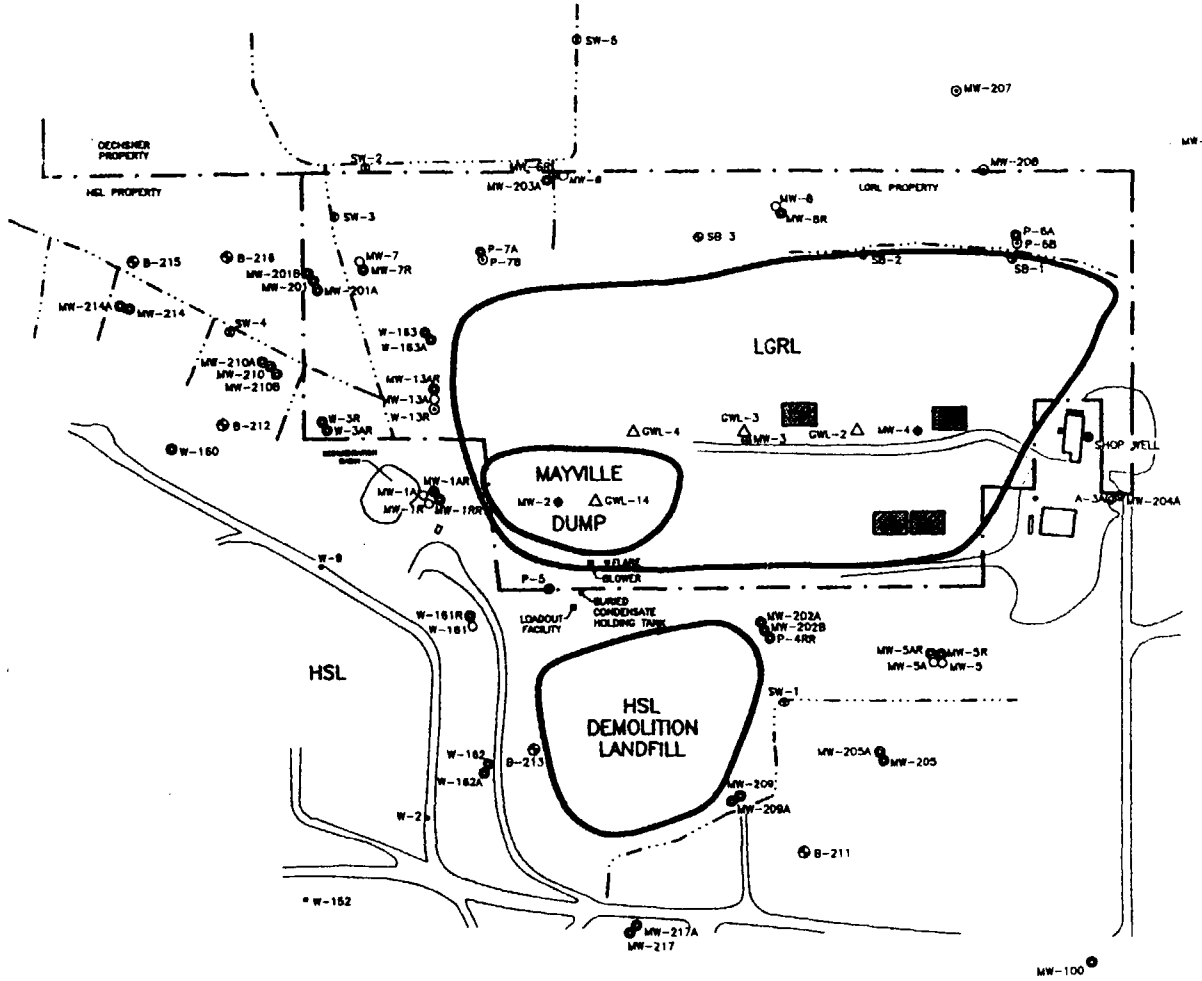
QUADRANGLE LOCATION

SITE LOCATION

ATTACHMENT 1

Attachment 2

Site Plan



- Road
- Building
- Drainage Ditch
- MW-1AR — Monitoring Well
- MW-206 — Piezometer
- MW-1A — Former Monitoring Well
- SW-2 — Surface Water Sampling Location
- Water Supply Well
- GWL-4 — Gas Vent
- MW-2 — Leachate Well
- SB-3 — Hollow Stem Auger Boring or Hand Auger Sampling Location
- W-9 — Off-Site Monitoring Point
- Property Line
- Approximate Landfill Limits
- Former Evaporation Pond (Identified From Aerial Photographs)

NOTES:

1. Base Map Supplied By RMT, Inc.
2. Locations Of Old Wells Supplied By Warzyn Inc And Replotted By RMT After Field Checking

Roy Weston, Barr Engineering C:\PROJECTS\LGRL\BASEMAP 300.00 04/16/1993 09:20:21

SITE FEATURES AND SAMPLING LOCATIONS

ATTACHMENT 2

Attachment 3

Site Inspection form

ATTACHMENT 3

Site Inspection Checklist

I. SITE INFORMATION	
Site name: HECHIMOVICH LANDFILL	**Date of inspection:** JUNE 10, 2004
Location and Region: WISCONSIN, REGION V	**EPA ID:** WID052906088
Agency, office, or company leading the five-year review: WISCONSIN DNR	**Weather/temperature:** CLOUDY, WET, 50's

Remedy Includes: (Check all that apply)

- ☒ Landfill cover/containment
- ☒ Access controls
- ☐ Institutional controls
- ☐ Groundwater pump and treatment
- ☐ Surface water collection and treatment
- ☐ Other _____
- ☒ Monitored natural attenuation
- ☐ Groundwater containment
- ☐ Vertical barrier walls

Attachments: ☐ Inspection team roster attached ☐ Site map attached

II. INTERVIEWS (Check all that apply)

1. **O&M site manager** DON SMITH (Name) _____ (Title) JUNE 10, 2004 (Date)
   Interviewed ☒ at site ☐ at office ☐ by phone Phone no. _____
   Problems, suggestions; ☐ Report attached GOOD INTERVIEW DISCUSSING SITE STATUS AND FUTURE

2. **O&M staff** _____ (Name) _____ (Title) _____ (Date)
   Interviewed ☐ at site ☐ at office ☐ by phone Phone no. _____
   Problems, suggestions; ☐ Report attached _____

3. **Local regulatory authorities and response agencies** (i.e., State and Tribal offices, emergency response office, police department, office of public health or environmental health, zoning office, recorder of deeds, or other city and county offices, etc.) Fill in all that apply.

Agency NA
Contact _____ _____ _____ _____
Name Title Date Phone no.
Problems; suggestions; ☐ Report attached _____

Agency _____
Contact _____ _____ _____ _____
Name Title Date Phone no.
Problems; suggestions; ☐ Report attached _____

Agency _____
Contact _____ _____ _____ _____
Name Title Date Phone no.
Problems; suggestions; ☐ Report attached _____

Agency _____
Contact _____ _____ _____ _____
Name Title Date Phone no.
Problems; suggestions; ☐ Report attached _____

4. **Other interviews** (optional) ☐ Report attached.

NA

III. ON-SITE DOCUMENTS & RECORDS VERIFIED (Check all that apply)

1. **O&M Documents**
   - ☐ O&M manual — ☐ Readily available — ☐ Up to date — ☐ N/A
   - ☐ As-built drawings — ☐ Readily available — ☐ Up to date — ☐ N/A
   - ☒ Maintenance logs — ☒ Readily available — ☒ Up to date — ☐ N/A

   Remarks SITE OPERATIONS WELL DOCUMENTED

2. **Site-Specific Health and Safety Plan** — ☐ Readily available — ☐ Up to date — ☒ N/A
   - ☐ Contingency plan/emergency response plan — ☐ Readily available — ☐ Up to date — ☒ N/A

   Remarks NOT REVIEWED

3. **O&M and OSHA Training Records** — ☐ Readily available — ☐ Up to date — ☒ N/A

   Remarks NOT REVIEWED

4. **Permits and Service Agreements**
   - ☐ Air discharge permit — ☐ Readily available — ☐ Up to date — ☐ N/A
   - ☐ Effluent discharge — ☐ Readily available — ☐ Up to date — ☐ N/A
   - ☐ Waste disposal, POTW — ☐ Readily available — ☐ Up to date — ☐ N/A
   - ☐ Other permits _____ — ☐ Readily available — ☐ Up to date — ☐ N/A

   Remarks NOT APPLICABLE

5. **Gas Generation Records** — ☒ Readily available — ☒ Up to date — XX N/A

   Remarks WELL MAINTAINED RECORDS

6. **Settlement Monument Records** — ☒ Readily available — ☒ Up to date — XX N/A

   Remarks

7. **Groundwater Monitoring Records** — ☒ Readily available — ☒ Up to date — ☐ N/A

   Remarks

8. **Leachate Extraction Records** — ☒ Readily available — ☒ Up to date — XX N/A

   Remarks

9. **Discharge Compliance Records**
   - ☐ Air — ☐ Readily available — ☐ Up to date — ☐ N/A
   - ☐ Water (effluent) — ☐ Readily available — ☐ Up to date — ☐ N/A

   Remarks NOT APPLICABLE

10. **Daily Access/Security Logs** — ☐ Readily available — ☐ Up to date — ☐ N/A

    Remarks NOT REVIEWED

IV. O&M COSTS

1. **O&M Organization**

☐ State in-house ☐ Contractor for State
☒ PRP in-house ☐ Contractor for PRP
☐ Federal Facility in-house ☐ Contractor for Federal Facility
☐ Other _____

2. **O&M Cost Records**

☐ Readily available ☐ Up to date
☐ Funding mechanism/agreement in place
Original O&M cost estimate NA ☐ Breakdown attached
SITE COSTS NOT REVIEWED
Total annual cost by year for review period if available

From _____ To _____ _____ ☐ Breakdown attached
Date Date Total cost
From _____ To _____ _____ ☐ Breakdown attached
Date Date Total cost
From _____ To _____ _____ ☐ Breakdown attached
Date Date Total cost
From _____ To _____ _____ ☐ Breakdown attached
Date Date Total cost
From _____ To _____ _____ ☐ Breakdown attached
Date Date Total cost

3. **Unanticipated or Unusually High O&M Costs During Review Period**

Describe costs and reasons: NA

V. ACCESS AND INSTITUTIONAL CONTROLS ☐ Applicable ☐ N/A

A. Fencing

1. **Fencing damaged** ☐ Location shown on site map ☒ Gates secured ☐ N/A
Remarks SITE NOT FENCED COMPLETELY

B. Other Access Restrictions

1. **Signs and other security measures** ☐ Location shown on site map ☐ N/A
Remarks SIGNS AT ENTRANCE

C. Institutional Controls (ICs)

1. **Implementation and enforcement**

Site conditions imply ICs not properly implemented ☐ Yes ☐ No ☐ N/A

Site conditions imply ICs not being fully enforced ☐ Yes ☐ No ☐ N/A

Type of monitoring (*e.g.*, self-reporting, drive by) _____

Frequency _____

Responsible party/agency _____

Contact _____ _____ _____ _____

Name Title Date Phone no.

Reporting is up-to-date ☐ Yes ☐ No ☐ N/A

Reports are verified by the lead agency ☐ Yes ☐ No ☐ N/A

Specific requirements in deed or decision documents have been met ☐ Yes ☐ No ☐ N/A

Violations have been reported ☐ Yes ☐ No ☐ N/A

Other problems or suggestions: ☐ Report attached

SITE ACCESS CONTROLS AND USE RESTRICTIONS SET IN STATE CODES, ARE WELL IMPLEMENTED

2. **Adequacy** ☒ ICs are adequate ☐ ICs are inadequate ☐ N/A

Remarks _____

D. General

1. **Vandalism/trespassing** ☐ Location shown on site map ☐ No vandalism evident

Remarks NOT A PROBLEM

2. **Land use changes on site** ☐ N/A

Remarks NONE

3. **Land use changes off site** ☐ N/A

Remarks NOT AN ISSUE BASED ON SITE LOCATION

VI. GENERAL SITE CONDITIONS

A. Roads ☒ Applicable ☐ N/A

1. **Roads damaged** ☐ Location shown on site map ☐ Roads adequate ☐ N/A

Remarks ROADS OK

B. Other Site Conditions

Remarks SITE COVER EXCELLENT SHAPE, CLAY CAP WELL MAINTAINED

VII. LANDFILL COVERS ☒ Applicable XX N/A

VIII. VERTICAL BARRIER WALLS ☐ Applicable XX N/A

IX. GROUNDWATER/SURFACE WATER REMEDIES ☐ Applicable ☐ N/A

A. Groundwater Extraction Wells, Pumps, and Pipelines ☐ Applicable ☐ N/A

1. **Pumps, Wellhead Plumbing, and Electrical**
   ■ Good condition ☐ All required wells properly operating ☐ Needs Maintenance ☒ N/A
   Remarks_____

2. **Extraction System Pipelines, Valves, Valve Boxes, and Other Appurtenances**
   ☐ Good condition ☐ Needs Maintenance
   Remarks_____

3. **Spare Parts and Equipment**
   ☐ Readily available ☐ Good condition ☐ Requires upgrade ☐ Needs to be provided
   Remarks_____

B. Surface Water Collection Structures, Pumps, and Pipelines ☐ Applicable XX N/A

C. Treatment System ☐ Applicable ☒ N/A

1. **Treatment Train** (Check components that apply)
   - ☐ Metals removal ☐ Oil/water separation ☐ Bioremediation
   - ☐ Air stripping ☐ Carbon adsorbers
   - ☐ Filters_____
   - ☐ Additive (*e.g.*, chelation agent, flocculent)_____
   - ☐ Others_____
   - ☐ Good condition ☐ Needs Maintenance
   - ☐ Sampling ports properly marked and functional
   - ☐ Sampling/maintenance log displayed and up to date
   - ☐ Equipment properly identified
   - ☐ Quantity of groundwater treated annually_____
   - ☐ Quantity of surface water treated annually_____

   Remarks_____

2. **Electrical Enclosures and Panels** (properly rated and functional)
   - ☐ N/A ☐ Good condition ☐ Needs Maintenance

   Remarks_____

3. **Tanks, Vaults, Storage Vessels**
   - ☐ N/A ☐ Good condition ☐ Proper secondary containment ☐ Needs Maintenance

   Remarks_____

4. **Discharge Structure and Appurtenances**
   - ☐ N/A ☐ Good condition ☐ Needs Maintenance

   Remarks_____

5. **Treatment Building(s)**
   - ☐ N/A ☐ Good condition (esp. roof and doorways) ☐ Needs repair
   - ☐ Chemicals and equipment properly stored

   Remarks_____

6. **Monitoring Wells** (pump and treatment remedy)
   - ☐ Properly secured/locked ☐ Functioning ☐ Routinely sampled ☐ Good condition
   - ☐ All required wells located ☐ Needs Maintenance ☐ N/A

   Remarks_____

D. Monitoring Data

1. Monitoring Data
   - ☒ Is routinely submitted on time ☒ Is of acceptable quality

2. Monitoring data suggests:
   - ☒ Groundwater plume is effectively contained ☒ Contaminant concentrations are declining

D. Monitored Natural Attenuation (Not Applicable)

X. OTHER REMEDIES (N/A)

XI. OVERALL OBSERVATIONS

A. Implementation of the Remedy

Describe issues and observations relating to whether the remedy is effective and functioning as designed. Begin with a brief statement of what the remedy is to accomplish (i.e., to contain contaminant plume, minimize infiltration and gas emission, etc.).

THE SITE IS IN EXCELLENT CONDITION. THE GAS EXTRACTION SYSTEM IS WORKING WELL AND STILL EFFECTIVELY REMOVING VOC'S FROM THE WASTE FILL. GROUNDWATER CONCENTRATIONS ARE SLOWLY DECREASING

B. Adequacy of O&M

Describe issues and observations related to the implementation and scope of O&M procedures. In particular, discuss their relationship to the current and long-term protectiveness of the remedy.

SITE IS STILL PROTECTIVE OF HUMAN HEALTH AND ENVIRONMENT

C.	**Early Indicators of Potential Remedy Problems**
	Describe issues and observations such as unexpected changes in the cost or scope of O&M or a high frequency of unscheduled repairs, that suggest that the protectiveness of the remedy may be compromised in the future. NONE
D.	**Opportunities for Optimization**

Describe possible opportunities for optimization in monitoring tasks or the operation of the remedy.

NONE